REMARKS/ARGUMENTS

Claims 15, 18, 19, and 22-24 are pending in the Application.

Rejections Under 35 U.S.C. § 103(a)

Claims 15-24 stand rejected under 35 U.S.C. § 103(a) as being obvious over U.S. Patent No. 6,319,594 to Suzuki et al. (hereinafter "Suzuki"). The Examiner alleges that Suzuki discloses a film that includes a transparent conductive layer comprising conductive fine particles such as zinc oxide embedded in a curing resin such as an organosilicon compound. Applicants respectfully disagree.

The present invention is directed to a plastic article, which is transparent and consists of a plastic substrate, optionally a coupling layer, at least one zinc oxide coating, wherein the coating consists essentially of zinc oxide nanoparticles which have a primary particle size of from 1 to 30 nm and which are embedded in an organosilane as a binder resin, and one abrasion resistant outer coating.

Suzuki discloses a film that includes a transparent substrate film; and, provided on the transparent substrate film in the following order, a transparent conductive layer, a hardcoat layer, and a low refractive layer, the low refractive layer having a lower refractive index than the hardcoat. The transparent conductive layer is formed from a conductive coating liquid containing conductive fine particles and a reactive curing resin. The conductive fine particles used in the formation of the transparent conductive layer include fine particles of antimony-doped indium-tin oxide ("ATO"), and indium-tin oxide (ITO). Metals and metal oxides used in the formation of the conductive thin film by sputtering or the like include, gold, nickel, ATO, ITO, and zinc oxide/aluminum oxide.

The Examiner has equated the transparent conductive layer in Suzuki with the present zinc oxide coating.

In maintaining his rejection, the Examiner suggests that the transition phrase "consisting essentially of," as used in the present claims, is equivalent to comprising because there is no clear indication in the specification or claims what the basic and novel characteristics are of the zinc oxide and, therefore, the composite material, zinc oxide/aluminum oxide, meets the consisting essentially of zinc oxide limitation. In support of his assertion, the Examiner primarily relies on In re Herz, 537 F.2d 549 (CCPA 1976), PPG Industries v. Guardian Industries, 156 F.3d 1351 (Fed. Cir. 1998).

Applicants note that "claims are given their broadest reasonable construction consistent with the specification." In re Herz, 537 F.2d at 551. "Therefore, in construing the phrase "consisting essentially of" ... it is necessary and proper to determine whether [the] specification reasonably supports a construction that would include [other] additives." Id. The "phrase 'consisting essentially of' limits the scope of a claim to the specified ingredients and those that do not materially affect the basic and novel characteristic(s) of a composition." In re Herz, at 551-552.

> Consisting essentially of" is a transition phrase commonly used to signal a partially open claim in a patent. Typically, "consisting essentially of" precedes a list of ingredients in a composition claim or a series of steps in a process claim. By using the term "consisting essentially of," the drafter signals that the invention necessarily includes the listed ingredients and is open to unlisted ingredients that do not materially affect the basic and novel properties of the invention. A "consisting essentially of" claim occupies a middle ground between closed claims that are written in a "consisting of" format and fully open claims that are drafted in a "comprising" format. PPG Industries, 156 F.3d at 1354.

As indicated above, the present invention is directed to a plastic article, which is transparent and consists of a plastic substrate, optionally a coupling layer, at least one zinc oxide coating, and one abrasion resistant outer coating. The coating consists essentially of zinc oxide nanoparticles which have a primary particle size of from 1 to 30 nm and which are embedded in an organosilane as a binder resin. The language of the claim is very clear, a zinc oxide coating is used to make a transparent plastic article. No other nanoparticles are mentioned. Yet the Examiner feels free to substitute any other type of coating that includes other materials as well as zinc oxide in order to frame his rejection under 35 U.S.C. § 103(a).

In Suzuki, two types of transparent conductive layers are proposed. First, a conductive coating liquid containing conductive fine particles and a reactive curing resin can be coated onto a plastic film. The second potential method would be where a metal or a metal oxide capable of forming a transparent film is vapor deposited or sputtered to form a conductive thin layer (col. 3, lines 4-9). When a coating liquid is used, antimony-doped indium-tin oxide and indium-tin oxide particles are used. When a sputtering method is used, gold, nickel, ATO, ITO, or zinc oxide/aluminum oxide are used (col. 3, lines 17-29). The Examiner feels free to

intermix the materials used in the coating method with those used in the sputtering method.

The Examiner suggests that there is no difference when his proposed sputtered coating layer is used to replace the claimed zinc oxide nanoparticle containing coating. Applicants point out that the difference in technique and composition materially change the nature of the coating and are not at all within the scope of the invention.

As indicated in the specification, the zinc oxide-containing coatings are those which, in addition to a suitable binder, contain zinc oxide particles with a primary particle size of from 1 to 30 nm, such that no noteworthy scattering or absorption is observed in the visible light range (see page 3, lines 16-19 of the specification). The zinc oxide is present to absorb ultraviolet radiation (see Table 1 on page 9 of the specification).

In sputtering, a discharge is created and ions from the discharge bombard a target, and atoms of the metal or even gross particles are pushed off the surface (sputtered) and deposited on a separate substrate. Thus, in Suzuki, the proposed aluminium oxide/zinc oxide coating is a different type of coating with a different composition.

The claimed plastic article consists of a plastic substrate, optionally coupling layer (ii) and coatings (iii) and (iv). None of these is a sputtered coating. So the sputter coating itself is outside of the scope of the present claims.

Further there is no suggestion or motivation in Suzuki to use fine particles of the sputtering materials to replace the fine particles in the liquid coating. Thus, there is no disclosure in Suzuki to use fine particles of aluminium oxide/zinc oxide in the liquid coating. Therefore, even though Applicants maintain that such particles are not within the scope of the invention, there is no motivation even in Suzuki to use them.

As Suzuki does not disclose or provide any disclosure or motivation for using a zinc oxide coating consisting essentially of zinc oxide nanoparticles in the film, as presently claimed, it does not render the claims obvious. Therefore, the rejection of claims 15-24 under 35 U.S.C. § 103(a) should be withdrawn.

Claim 15 stands rejected under 35 U.S.C. § 103(a) as being obvious over EP 0 763 581 A2 to Abe et al. (hereinafter "Abe").

Abe does not disclose or in any way suggest films having an abrasion resistant outer coating containing sol-gel materials. Therefore the claims are not obvious over Abe and the rejection of Claim 15 under 35 U.S.C. § 103(a) should be withdrawn.

CONCLUSION

In view of the above remarks, reconsideration of the rejections and allowance of Claims 15, 18, 19, and 22-24 are respectfully requested.

Respectfully submitted,

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